

CONTRACT FOR ALGAL TURF SCRUBBER™ NUTRIENT REMOVAL FEASIBILITY STUDY

This contract is dated, made, and entered into as of the _____ day of _____, 20____, by the City of Durham (“City”) and Biohabitats of North Carolina, P.C (“Contractor”), a Maryland corporation registered to do business in the State of North Carolina.

Sec. 1. Background and Purpose. . The Falls Lake Nutrient Management Strategy requires large reductions of nitrogen and phosphorus (i.e., nutrients) from the City of Durham. The Public Works Department identified the Algal Turf Scrubber™ nutrient removal system as a technology that has the potential to remove nitrogen and phosphorus at cost lower than that of traditional structural stormwater control measures. However, additional information is needed prior to developing a full scale application of an Algal Turf Scrubber™ in the city of Durham. A feasibility study that considers the treatment technology and the conditions in the City of Durham is needed before additional effort is expended on this technology.

Sec. 2. Services and Scope to be Performed. Presumption that Duty is Contractor’s. The Contractor shall evaluate the feasibility of using the Algal Turf Scrubber™ nutrient removal system in a City of Durham watershed draining to Falls Lake. As part of this feasibility study, the Contractor shall evaluate physical and chemical conditions in the City of Durham, permitting conditions, and waste disposal associated with the Algal Turf Scrubber™ system. The Contractor shall attend meetings, prepare reports, and meet project milestones. The detailed tasks and deliverables for the work to be performed are provided in Exhibit A, “Scope of Work”.

In this contract, “Work” means the services that the Contractor is required to perform pursuant to this contract and all of the Contractor’s duties to the City that arise out of this contract. Unless the context requires otherwise, if this contract states that a task is to be performed or that a duty is owed, it shall be presumed that the task or duty is the obligation of the Contractor.

Sec. 3. Schedule of Performance and Term. This Contract will be effective upon execution by both parties and will expire upon completion of the services and payment by the City

Sec. 4. Complete Work without Extra Cost. Except to the extent otherwise specifically stated in this contract, the Contractor shall obtain and provide, without additional cost to the City, all labor, materials, equipment, transportation, facilities, services, permits, and licenses necessary to perform the Work.

Sec. 5. Contractor’s Billings to City. Compensation. The Contractor shall send invoices to the City on a monthly basis for the amounts to be paid pursuant to this contract. Each invoice shall document, to the reasonable satisfaction of the City: such information as may be reasonably requested by the City. This includes a monthly status report that summarizes the work progress, updated schedule, and a description of any contract issues and their resolution. Within twenty days after the City receives an invoice, the City shall send the Contractor a check in payment for all undisputed amounts contained in the invoice.

The City shall pay the Contractor for the Work on a time and materials basis not to exceed a total amount of **\$52,470.00**. The City shall not be obligated to pay the Contractor any payments, fees, expenses, or compensation other than those authorized by this section.

Sec. 6. Prompt Payment to Subcontractors. (a) Within 14 days of receipt by the Contractor of each payment from the City under this contract, the Contractor shall pay all Subcontractors (which term includes subconsultants and suppliers) based on work completed or service provided under the subcontract. Should any payment to the Subcontractor be delayed by more than 14 days after receipt of payment by the Contractor from the City under this contract, the Contractor shall pay the Subcontractor interest, beginning on the 15th day, at the rate of 1% per month or fraction thereof on such unpaid balance as may be due. By appropriate litigation, Subcontractors shall have the right to enforce this subsection (a) directly against the Contractor, but not against the City of Durham.

(b) If the individual assigned to administer this contract for the City (in this section, titled “Prompt Payment to Subcontractors,” he or she will be referred to as the “Project Manager”) determines that it is appropriate to enforce subsection (a) in this manner, the City may withhold from progress or final payments to the Contractor the sums estimated by the Project Manager to be

(i) the amount of interest due to the Subcontractor under subsection (a), and/or

(ii) the amounts past-due under subsection (a) to the Subcontractor but not exceeding 5% of the payment(s) due from the City to the Contractor.

This subsection (b) does not limit any other rights to withhold payments that the City may have.

(c) Nothing in this section (titled “Prompt Payment to Subcontractors”) shall prevent the Contractor at the time of invoicing, application, and certification to the City from withholding invoicing, application, and certification to the City for payment to the Subcontractor for unsatisfactory job progress; defective goods, services, or

construction not remedied; disputed work; third-party claims filed or reasonable evidence that such a claim will be filed; failure of the subcontractor to make timely payments for labor, equipment, and materials; damage to the Contractor or another subcontractor; reasonable evidence that the subcontract cannot be completed for the unpaid balance of the subcontract sum; or a reasonable amount for retainage not to exceed 10%.

(d) The Project Manager may require, as a prerequisite to making progress or final payments, that the Contractor provide statements from any Subcontractors designated by the Project Manager regarding the status of their accounts with the Contractor. The statements shall be in such format as the Project Manager reasonably requires, including notarization if so specified.

Sec. 7. Insurance.

The Contractor shall purchase and maintain insurance coverage for not less than the following:

Commercial General Liability, covering:

- Premises/operations
- Products/completed operations (two years minimum, from project completion)
- Broad form property damage
- Contractual liability
- Independent contractors, if any are used in the performance of this contract
- City of Durham must be named additional insured, and an original of the endorsement to effect the coverage must be attached to the certificate (if by blanket endorsement, then agent may so indicate in the GL section of the certificate, in lieu of an original endorsement)
- Combined single limit not less than \$1,000,000 per occurrence, with an annual aggregate on not less than \$2,000,000.

Commercial Auto Liability, covering:

- Symbol 1, all vehicles
- Combined single limit of \$2,000,000
- City of Durham must be named additional insured

Professional Liability, covering:

- Covering claims arising out of professional advisement / consultation services performed in connection with this contract
- Combined single limit not less than \$1,000,000 per occurrence; if coverage is only available on claims made basis, then additional coverage requirements may apply, subject to review of City Finance Director

Workers' Compensation Insurance, covering:

- Statutory benefits;
- Covering employees; covering owners partners, officers, and relatives (who work on this contract) (this must be stated on the certificate)
- Employers' liability, \$1,000,000
- Waiver of subrogation in favor of the City of Durham

Insurance shall be provided by:

- Companies authorized to do business in the State of North Carolina
- Companies with Best rating of A-, VII or better.

Insurance shall be evidenced by a certificate:

- Providing notice to the City of not less than 30 days prior to cancellation or reduction of coverage
- Certificates shall be addressed to:
City of Durham, North Carolina
Attention: Public Works Department
101 City Hall Plaza
Durham, NC 27701

Sec. 8. Performance of Work by City. If the Contractor fails to perform the Work in accordance with the schedule referred to in Section 3 above, the City may, in its discretion, in order to bring the project closer to the schedule, perform or cause to be performed some or all of the Work, and doing so shall not waive any of the City's

rights and remedies. Before doing so, the City shall give the Contractor notice of its intention. The Contractor shall reimburse the City for additional costs incurred by the City in exercising its right to perform or cause to be performed some or all of the Work pursuant to this section.

Sec. 9. Exhibits. The following exhibits are made a part of this contract:

Exhibit A. Scope of Work containing four pages

In case of conflict between an exhibit and the text of this contract excluding the exhibit, the text of this contract shall control.

Sec. 10. Notice. (a) All notices and other communications required or permitted by this contract shall be in writing and shall be given either by personal delivery, fax, UPS, Federal Express, or certified United States mail, return receipt requested, addressed as follows. The parties are requested to send a copy by email.

To the City:

Michelle Woolfolk
City of Durham, Public Works Department
101 City Hall Plaza
Durham, NC 27701-3329
The fax number is (919)560-4316.
Email: michelle.woolfolk@durhamnc.gov

To the Contractor:

Kevin Nunnery
Biohabitats of North Carolina, P.C.
8218 Creedmoor Road, Suite 200, Raleigh, NC 27613
The fax number is 410-554-0168.
Email: knunnery@biohabitats.com

(b) Change of Address. Date Notice Deemed Given. A change of address, fax number, or person to receive notice may be made by either party by notice given to the other party. Any notice or other communication under this contract shall be deemed given and sent at the time of actual delivery, if it is personally delivered or sent by fax. If the notice or other communication is sent by United States mail, it shall be deemed given upon the third calendar day following the day on which such notice or other communication is deposited with the United States Postal Service or upon actual delivery, whichever first occurs.

Sec. 11. Indemnification. (a) To the maximum extent allowed by law, the Contractor shall defend, indemnify, and save harmless Indemnitees from and against all Charges that arise in any manner from, in connection with, or out of this contract as a result of acts or omissions of the Contractor or subcontractors or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. In performing its duties under this subsection "a," the Contractor shall at its sole expense defend Indemnitees with legal counsel reasonably acceptable to City. (b) Definitions. As used in subsections "a" above and "c" below -- "Charges" means claims, judgments, costs, damages, losses, demands, liabilities, duties, obligations, fines, penalties, royalties, settlements, and expenses (included without limitation within "Charges" are (1) interest and reasonable attorneys' fees assessed as part of any such item, and (2) amounts for alleged violations of sedimentation pollution, erosion control, pollution, or other environmental laws, regulations, ordinances, rules, or orders -- including but not limited to any such alleged violation that arises out of the handling, transportation, deposit, or delivery of the items that are the subject of this contract). "Indemnitees" means City and its officers, officials, independent contractors, agents, and employees, excluding the Contractor. (c) Other Provisions Separate. Nothing in this section shall affect any warranties in favor of the City that are otherwise provided in or arise out of this contract. This section is in addition to and shall be construed separately from any other indemnification provisions that may be in this contract. (d) Survival. This section shall remain in force despite termination of this contract (whether by expiration of the term or otherwise) and termination of the services of the Contractor under this contract. (e) Limitations of the Contractor's Obligation. If this section is in, or is in connection with, a contract relative to the design, planning, construction, alteration, repair or maintenance of a building, structure, highway, road, appurtenance or appliance, including moving, demolition and excavating connected therewith, then subsection "a" above shall not require the Contractor to indemnify or hold harmless Indemnitees against liability for damages arising out of bodily injury to persons or damage to property proximately caused by or resulting from the negligence, in whole or in part, of Indemnitees.

Sec. 12. Miscellaneous

(a) Choice of Law and Forum; Service of Process. (i) This contract shall be deemed made in Durham County, North Carolina. This contract shall be governed by and construed in accordance with the law of North

Carolina. The exclusive forum and venue for all actions arising out of this contract shall be the North Carolina General Court of Justice, in Durham County. Such actions shall neither be commenced in nor removed to federal court. This subsection (a) shall not apply to subsequent actions to enforce a judgment entered in actions heard pursuant to this subsection. (ii) If the Contractor is not a natural person (for instance, the Contractor is a corporation or limited liability company), this subsection (ii) applies. "Agent for Service of Process" means every person now or hereafter appointed by the Contractor to be served or to accept service of process in any State of the United States. Without excluding any other method of service authorized by law, the Contractor agrees that every Agent for Service of Process is designated as its non-exclusive agent for service of process, summons, and complaint. The Contractor will instruct each Agent for Service of Process that after such agent receives the process, summons, or complaint, such agent shall promptly send it to the Contractor. This subsection (ii) does not apply while the Contractor maintains a registered agent in North Carolina with the office of the N. C. Secretary of State and such registered agent can be found with due diligence at the registered office.

(b) Waiver. No action or failure to act by the City shall constitute a waiver of any of its rights or remedies that arise out of this contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

(c) Performance of Government Functions. Nothing contained in this contract shall be deemed or construed so as to in any way estop, limit, or impair the City from exercising or performing any regulatory, policing, legislative, governmental, or other powers or functions.

(d) Severability. If any provision of this contract shall be unenforceable, the remainder of this contract shall be enforceable to the extent permitted by law.

(e) Assignment, Successors and Assigns. Without the City's written consent, the Contractor shall not assign (which includes to delegate) any of its rights (including the right to payment) or duties that arise out of this contract. The City Manager may consent to an assignment without action by the City Council. Unless the City otherwise agrees in writing, the Contractor and all assignees shall be subject to all of the City's defenses and shall be liable for all of the Contractor's duties that arise out of this contract and all of the City's claims that arise out of this contract. Without granting the Contractor the right to assign, it is agreed that the duties of the Contractor that arise out of this contract shall be binding upon it and its heirs, personal representatives, successors, and assigns.

(f) Compliance with Law. In performing all of the Work, the Contractor shall comply with all applicable law.

(g) Notice of City Policy. THE CITY OPPOSES DISCRIMINATION ON THE BASIS OF RACE AND SEX AND URGES ALL OF ITS CONTRACTORS TO PROVIDE A FAIR OPPORTUNITY FOR MINORITIES AND WOMEN TO PARTICIPATE IN THEIR WORK FORCE AND AS SUBCONTRACTORS AND VENDORS UNDER CITY CONTRACTS.

(h) EEO Provisions. During the performance of this Contract the Contractor agrees as follows: (1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, political affiliation or belief, age, or handicap. The Contractor shall take affirmative action to insure that applicants are employed and that employees are treated equally during employment, without regard to race, color, religion, sex, national origin, political affiliation or belief, age, or handicap. Such action shall include but not be limited to the following: employment, upgrading, demotion, transfer, recruitment or advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices setting forth these EEO provisions. (2) The Contractor shall in all solicitations or advertisement for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, political affiliation or belief, age, or handicap. (3) The Contractor shall send a copy of the EEO provisions to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding. (4) In the event of the Contractor's noncompliance with these EEO provisions, the City may cancel, terminate, or suspend this contract, in whole or in part, and the City may declare the Contractor ineligible for further City contracts. (5) Unless exempted by the City Council of the City of Durham, the Contractor shall include these EEO provisions in every purchase order for goods to be used in performing this contract and in every subcontract related to this contract so that these EEO provisions will be binding upon such subcontractors and vendors.

(i) SDBE. The Contractor shall comply with all applicable provisions of Article III of Chapter 18 of the Durham City Code (Equal Business Opportunities Ordinance), as amended from time to time. The failure of the Contractor to comply with that article shall be a material breach of contract which may result in the rescission or termination of this contract and/or other appropriate remedies in accordance with the provisions of that article, this contract, and State law. The Participation Plan submitted in accordance with that article is binding on the Contractor. Section 18-59(f) of that article provides, in part, "If the City Manager determines that the Contractor

has failed to comply with the provisions of the Contract, the City Manager shall notify the Contractor in writing of the deficiencies. The Contractor shall have 14 days, or such time as specified in the Contract, to cure the deficiencies or establish that there are no deficiencies.” It is stipulated and agreed that those two quoted sentences apply only to the Contractor’s alleged violations of its obligations under Article III of Chapter 18 and not to the Contractor’s alleged violations of other obligations.

(j) No Third Party Rights Created. This contract is intended for the benefit of the City and the Contractor and not any other person.

(k) Principles of Interpretation and Definitions. (1) The singular includes the plural and the plural the singular. The pronouns “it” and “its” include the masculine and feminine. References to statutes or regulations include all statutory or regulatory provisions consolidating, amending, or replacing the statute or regulation. References to contracts and agreements shall be deemed to include all amendments to them. The words “include,” “including,” etc. mean include, including, etc. without limitation. (2) References to a “Section” or “section” shall mean a section of this contract. (3) “Contract” and “Agreement,” whether or not capitalized, refer to this instrument. (4) “Duties” includes obligations. (5) The word “person” includes natural persons, firms, companies, associations, partnerships, trusts, corporations, governmental agencies and units, and other legal entities. (6) The word “shall” is mandatory. (7) The word “day” means calendar day. (8) The word “Work” is defined in Section 2. (9) A definition in this contract will not apply to the extent the context requires otherwise.

(l) Modifications. Entire Agreement. A modification of this contract is not valid unless signed by both parties and otherwise in accordance with requirements of law. Further, a modification is not enforceable against the City unless it is signed by the City Manager, a deputy or assistant City Manager, or, in limited circumstances, a City department director. This contract contains the entire agreement between the parties pertaining to the subject matter of this contract. With respect to that subject matter, there are no promises, agreements, conditions, inducements, warranties, or understandings, written or oral, expressed or implied, between the parties, other than as set forth or referenced in this contract.

(m) City’s Manager’s Authority. To the extent, if any, the City has the power to suspend or terminate this contract or the Contractor’s services under this contract, that power may be exercised by City Manager or a deputy or assistant City Manager without City Council action.

Sec. 13. Termination for Convenience (“TFC”). (a) *Procedure.* Without limiting any party’s right to terminate for breach, the parties agree that the City may, without cause, and in its discretion, terminate this contract for convenience by giving the Contractor written notice that refers to this section. TFC shall be effective at the time indicated in the notice. (b) *Obligations.* Upon TFC, all obligations that are still executory on both sides are discharged except that any right based on prior breach or performance survives, and the indemnification provisions and the section of this contract titled Trade Secrets and Confidentiality, if any, shall remain in force. At the time of TFC or as soon afterwards as is practical, the Contractor shall give the City all Work, including partly completed Work. In case of TFC, the Contractor shall follow the City’s instructions as to which subcontracts to terminate. (c) *Payment.* The City shall pay the Contractor an equitable amount for the costs and charges that accrue because of the City’s decisions with respect to the subcontracts, but excluding profit for the Contractor. Within 20 days after TFC, the City shall pay the Contractor one hundred dollars as a TFC fee and shall pay the Contractor for all Work performed except to the extent previously paid for. Work shall be paid for in accordance with the method (unit prices, hourly fees, etc.) to be used for payment had the Work been completed except to the extent it would be inequitable to either party, and if Work was to be paid for on a lump-sum basis, the City shall pay the part of the lump sum that reflects the percentage of completion attained for that Work. The Contractor shall not be entitled to any payment because of TFC except as stated in this section, whether on the basis of overhead, profit, damages, other economic loss, or otherwise.

Sec. 14. Trade Secrets; Confidentiality. The request for proposals (RFP) section titled “Trade Secrets and Confidentiality” shall apply to any Trade Secrets disclosed to the City during the process leading to the parties’ entering into this Contract (including all of the Contractor’s responses to the RFP). This section (titled “Trade Secrets; Confidentiality”) shall remain in force despite termination of this contract (whether by expiration of the term or otherwise) and termination of the services of the Contractor under this contract. For purposes of this contract, the word “candidate” in the RFP section just cited shall mean the “Contractor.”

IN WITNESS WHEREOF, the City and the Contractor have caused this contract to be executed under seal themselves or by their respective duly authorized agents or officers.

ATTEST:

CITY OF DURHAM

_____ By: _____

preaudit certificate, if applicable _____

Biohabitats of North Carolina, P.C.

(Affix corporate seal)

By: _____

Title of officer: _____

State of _____ County of _____

I, a notary public in and for the aforesaid county and state, certify that _____ personally appeared before me this day and stated that he or she is (~~**strike through the inapplicable:**~~) chairperson/ president/ chief executive officer/ vice-president/ assistant vice-president/ treasurer/ chief financial officer of Biohabitats of North Carolina, P.C., a corporation registered to do business in North Carolina, and that by authority duly given and as the act of the corporation, he or she signed the foregoing contract with the City of Durham and the corporate seal was affixed to said instrument(s). This the _____ day of _____, 20____.

My commission expires:

Notary Public

Exhibit A - Scope of Work

Nutrient Removal/Algae Harvesting Feasibility Study

Using Algal Turf Scrubber™ Technology

The project goal is to conduct a feasibility study of the algal turf scrubber technology for removing nutrients from Durham streams and Falls Lake. The target areas for the feasibility study are Ellerbe and Little Lick Creeks, both located in the Falls Lake watershed. The feasibility study will evaluate the application of the Algal Turf Scrubber™ (ATS™) technology to free-flowing water from the creeks, as well as slow-moving water from the mouth of each of these creeks at Falls Lake (i.e., coves). The output of the feasibility study is an evaluation of the potential nutrient removal efficiency, cost-effectiveness of the technology, and barriers to implementation, if any.

The feasibility study is divided into the following tasks:

1. Identify and rank candidate pilot study locations for the ATS™ technology,
2. Develop a waste disposal plan for any byproducts of the treatment, and
3. Develop a preliminary cost estimate for the design, installation and implementation of a pilot study.

Task 1. Identify and rank candidate pilot study locations for the ATS™ technology.

Biohabitats will conduct reviews of available information to identify candidate pilot study locations. As part of the review, Biohabitats will

1. Identify critical site and treatment factors that may affect the use of an ATS™ in Durham. Biohabitats will gather and review information from previous and new applications of ATSS™ to compare and extrapolate to an application in Durham. Operators and purchasers of ATS™ in other locales may be contacted, as well as written reviews of ATS™ performance and efficiency.
2. Review local climate, water quality and stream discharge information and data. Flow and water quality data are available through the City of Durham, USGS, and the North Carolina Division of Water Quality (DWQ), providing substantial data for the analysis. Based on these data, the Biohabitats will also comment on any pretreatment or special considerations that should be made during a pilot study. Critical factors considered for the candidate sites are nutrient loads, turbidity, toxicity and minimum flow requirements.
3. Utilize relevant spatial information to screen candidate pilot study locations. A site suitability analysis will be conducted and will include ownership, accessibility, security, site dimensions, zoning and land use. Site condition assessment will include topography, subsurface geology / soils / groundwater, flood zones, adjoining site vegetation (shading), and air quality with respect to the potential for wind driven particle deposition. Ecological features of note will be investigated including the presence of wetlands and threatened or endangered flora and fauna critical habitat as well as ecological maintenance flows for aquatic biota. Engineering functionality will be determined with assessments of the distance to the treatment water source, adequate volume and seasonal distribution of the treatment water source and the availability of utilities. Sites which are accessible, have the desired footprint, are owned by the City of Durham (if possible), and in close proximity to a waterway with

- the desired flow and water quality characteristics to maximize nutrient removal cost effectiveness and overall impact in terms of nutrient reduction goals will be selected.
4. Biohabitats will work with the City coordinating team to identify a core set of screening factors to evaluate candidate pilot study locations. These screening factors will be used to rank candidate pilot study locations. Based on the results of the screening, up to four suitable locations for ATST[™] installations at both the pilot and full scales will be identified. Sites that are able to draw from two water sources without significant added cost will be particularly investigated.
 5. Conduct field reconnaissance of the highest ranking candidate pilot study locations following the development of assessment items. Up to four locations may be visited. The field reconnaissance will provide on-the-ground assessments of suitability.

Deliverables: Biohabitats will provide a summary memorandum identifying candidate pilot study locations with key data elements and permitting considerations for each location. Information gaps for each location will also be described. Biohabitats will prepare site location maps and provide associated GIS shapefiles for each candidate pilot study locations.

Biohabitats will prepare draft and final technical memoranda describing the screening criteria and results of the screening to identify the high ranking candidate pilot study locations.

Three meetings with the City coordinating team may occur, as follows: (1) discussion of the candidate pilot study locations, (2) discussion and selection of the screening criteria to rank candidate pilot study locations, and (3) the results of the screening. The meetings will occur in Durham at City Hall. Biohabitats will provide meeting summaries to the City project manager.

Task 2. Develop a waste disposal plan for any byproducts of the treatment.

Biohabitats will develop a biomass management plan to examine the feasibility of renewable uses for algae recovered from ATST[™] systems employed within the Falls Lake Watershed. Potential renewable uses to be evaluated shall include the production of compost, container media, methane production through anaerobic digestion, and biodiesel and biobutanol production. The waste disposal plan will be documented in the draft feasibility report. (Additional deliverables are not required.)

Deliverables: None. The waste disposal plan will be included in the final feasibility study report.

Task 3. Develop a preliminary cost estimate for the design, installation and implementation of a pilot study.

To optimize the site selection process for treatment technologies required to meet phosphorus and nitrogen load reduction goals in the Falls Lake Watershed, careful consideration must be given to treatment system economics. Site specific economics can be critically impacted by flow and water quality characteristics, projected treatment performance under different flow and water quality scenarios, available land resources, and site specific conditions.

In the proposed feasibility analysis, a preliminary pilot system(s) cost estimate will be provided based on items 1 through 12 below.

1. Pilot study design
2. Installation plans
3. Installation oversight
4. Any required site work
5. Materials and labor for unit assembly
6. Electrical power for the unit
7. General operation, maintenance, and unit optimization
8. Waste disposal and biomass harvesting labor
9. Water quality monitoring
10. Lab analysis
11. Dismantling of the unit
12. Cost-benefit summary in dollars per pound of total nitrogen and total phosphorus removed

The pilot system will be based on the application of HydroMentia's ATST[™] mobile pilot unit (MPU). The MPU was specifically designed to allow for the cost-effective pilot testing of the technology. If two or more candidate sites have water quality that is significantly different, Biohabitats will provide preliminary cost estimates for pilot systems to be located at each individual site, and for a multiple pilot system approach, if applicable.

For the cost-benefit analysis of the pilot study, Biohabitats will use a Life Cycle Cost Analysis (LCCA). Information on ATST[™] facility design, biomass processing, projected water quality treatment performance, and estimated capital construction and operating costs will be factored into the site-specific cost analysis. Within the LCCA, Biohabitats proposes to use the discount rate currently used for federal water projects as published by the US Department of Agriculture (currently 4%). The results of the LCCA will be presented in a presentation and in the feasibility report.

Deliverables: Biohabitats will conduct two meetings with the City coordinating team during this task. The first meeting will be a presentation and discussion of the LCCA and the second meeting will be a presentation and discussion of the draft feasibility memorandum, with recommendations. The meetings will occur in Durham at City Hall. Biohabitats will provide meeting summaries to the City project manager.

Biohabitats will prepare a draft and final feasibility reports, with recommendations. Approximately three weeks will be provided to the City coordinating team to review the draft feasibility report following the presentation.

Task 4. Project Management and Coordination

A project kick-off meeting will be held with the City coordinating team to discuss the scope and gather initial information regarding the feasibility study. Additional project management duties

to be performed by Biohabitats include providing regular written project updates with invoices. Other regular and routine email and phone communication with the City project manager will occur to identify and resolve any project scheduling or technical issues.

Deliverables: Biohabitats will provide a kickoff meeting summary to the City project manager. Invoices will be provided monthly.